# FROM ***LULU*** TO ***LOLAPALOOZA***

# Using Brownfields for Traditional and Renewable Energy Facilities

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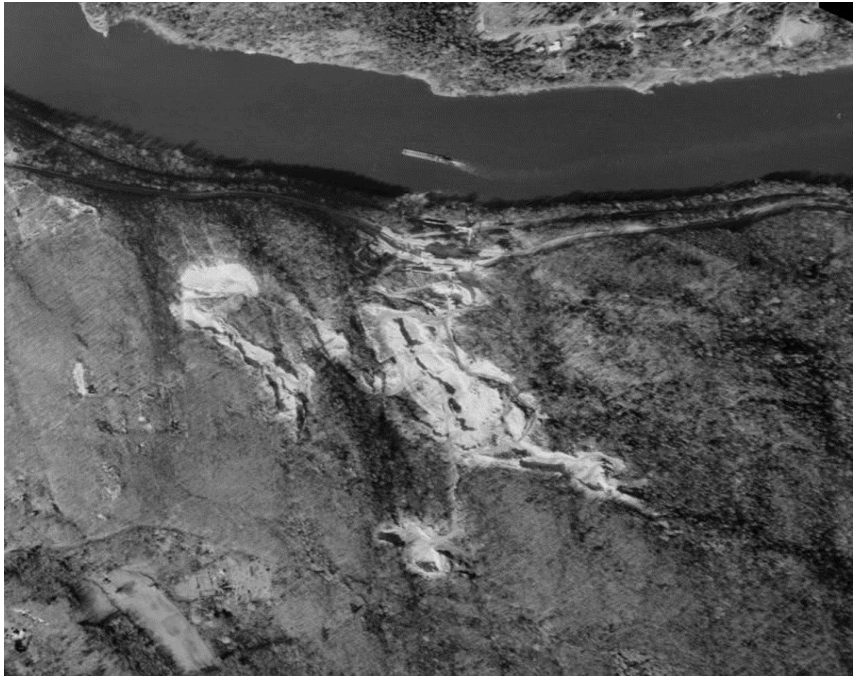
# ***LULU*** – "Locally Unwanted Land Use"

**Former Feldspar Mine**



**Former Sand and Gravel Mine**

# ***LOLAPALOOZA*** – An extraordinary or unusual thing, person, or event, an exceptional example or instance.

Random House Dictionary 2009

## Kleen Energy

**Middletown, CT**

## Beacon Falls Energy Park

**Beacon Falls, CT**

# Development Philosophy – "MAKE IT BETTER"

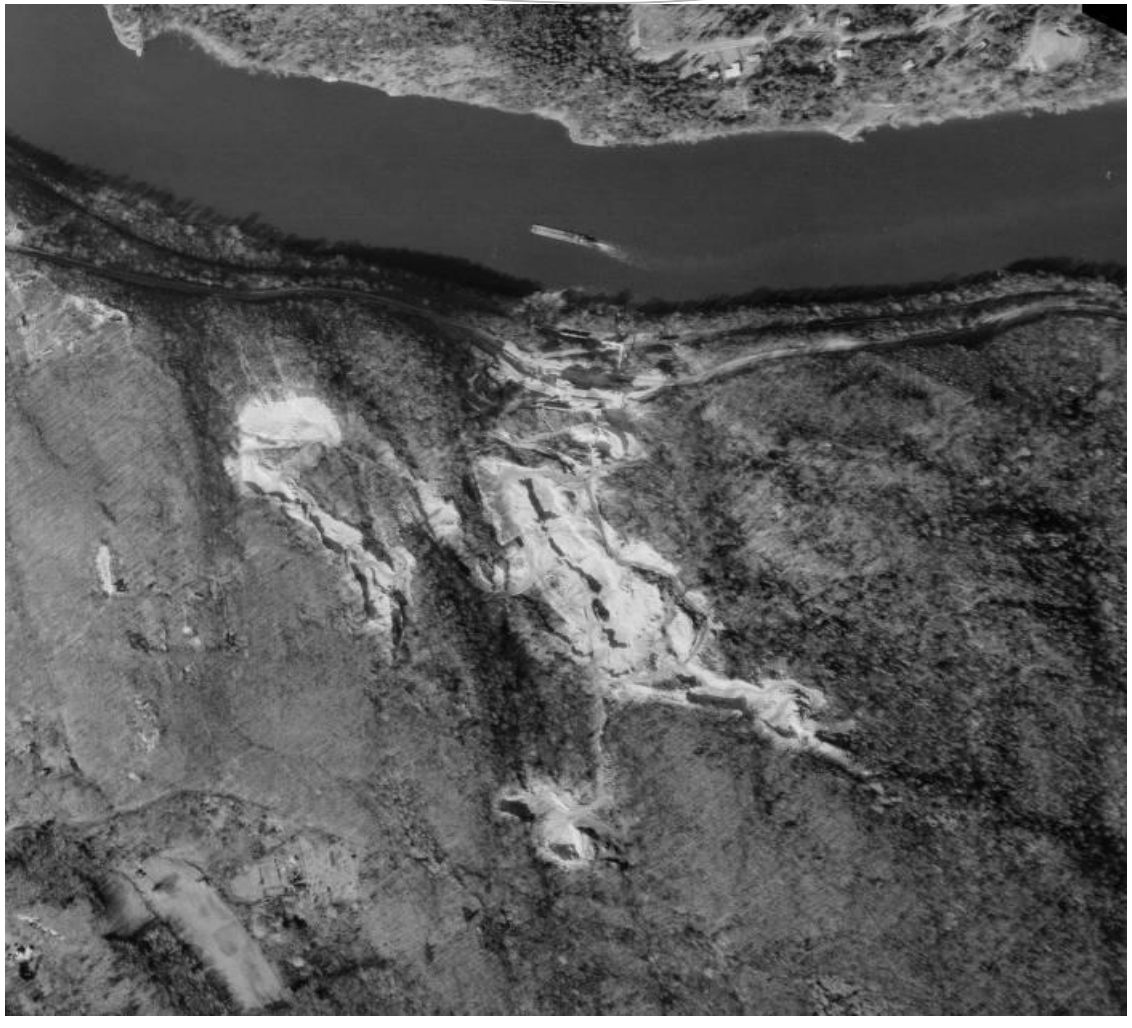
- **A**DD VALUE: Develop the best possible project possible, adding value along the way for project participants, the host community and Connecticut.

  *improve site *create jobs *tax revenue

- **B**E A GOOD NEIGHBOR: Development should be as unobtrusive as possible.
- **C**LEAN ENERGY: Choose traditional and renewable generating technologies that have a net-positive environmental impact and further and support Connecticut's energy goals and policies.

# *LULU*

FELDSPAR MINING
AREA
1349 River Road, Middletown ,
Connecticut MARCH 1965



# *LOLAPALOOZA*

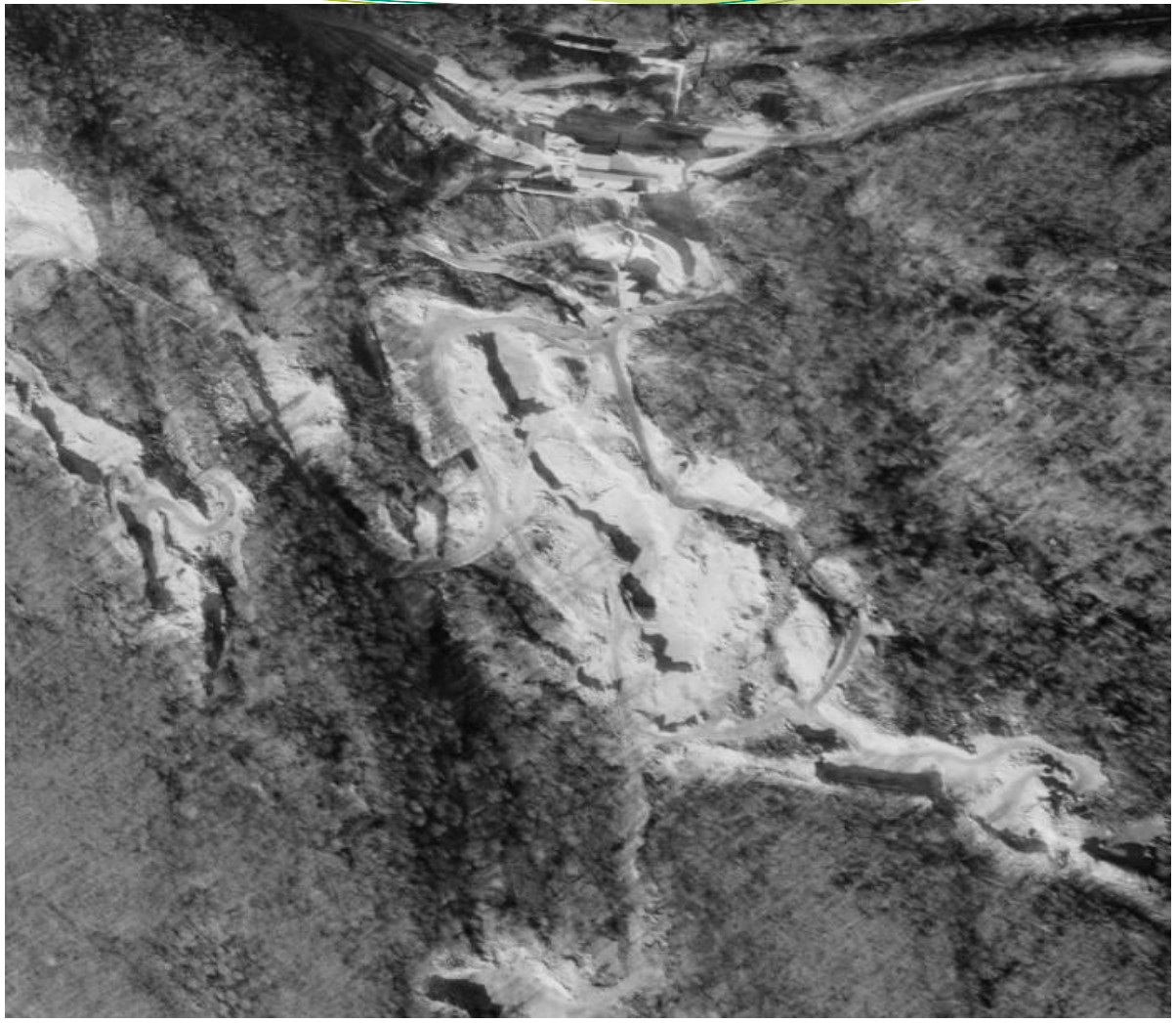
**Kleen Energy project 1349 River Road, Middletown, CT  September 2009**

Feldspar Mining Facility

•187 acres

•Topography
Property steps up rapidly from 10 feet above sea level at Connecticut River to over 500 feet above sea level at southern boundary

Located in I-3 Special Industrial Zone



The feldspar mining process resulted in the LULU impact obvious when the 1939 photo is compared to the 1965 photo.


1939 BEFORE **LULU**

1965 – AFTER SIX YEARS OF MINING

Feldspar mining operation left property scarred but also:

- Deficient stabilization created heavy siltation problem into the Connecticut River;
- Silt filled drainage system resulting in collapse of River Road on several occasions;
- Open mine faces were a hazard;
- Abandoned property became target for drug dealers and was savaged by motor cross sports and recreational vehicles.

Kleen Energy development group acquired property in 1999 to develop 620 Megawatt natural gas fired power plant.

Original location of the project was in another part of Middletown but City of Middletown Development Office had suggested Feldspar Mining site:

- Zoned I-3 Special Industrial Zone
- Close proximity to Connecticut River- cooling water
- 345 Kv Electrical transmission lines nearby
- Algonquin natural gas pipeline 1 mile away
- Highly disturbed former mine site in need of stabilization
- Few residential neighbors

Kleen Energy sedimentation and siltation pond area December 11, 2007

Deep rock cuts were necessary to create the main road with less than 10% grade. This allowed heavy equipment to be hauled to the power island.

Deepest rock cut was almost 70 feet deep on the south wall.

**ENVIRONMENTAL GOAL**
Stabilize mining site and eliminate siltation problems by creating unique sedimentation and siltation control system

Kleen Energy silt control, sedimentation basin and waterfall

Environmental design was put to the test when more than 6 inches of rain fell in less than 24 hours. Silt was contained in the sedimentation pond and siltation basin.

**Silt trapped by filtration system in siltation basin**

Stabilizing the slopes prevented mining fines from leaching into the river. Armoring of the slopes with rock from the site helped achieve this goal.

Over 2,000,000 cubic yards of rock and dirt were moved to stabilize the site and create plateaus of development. No material left the site.

# *LULU*

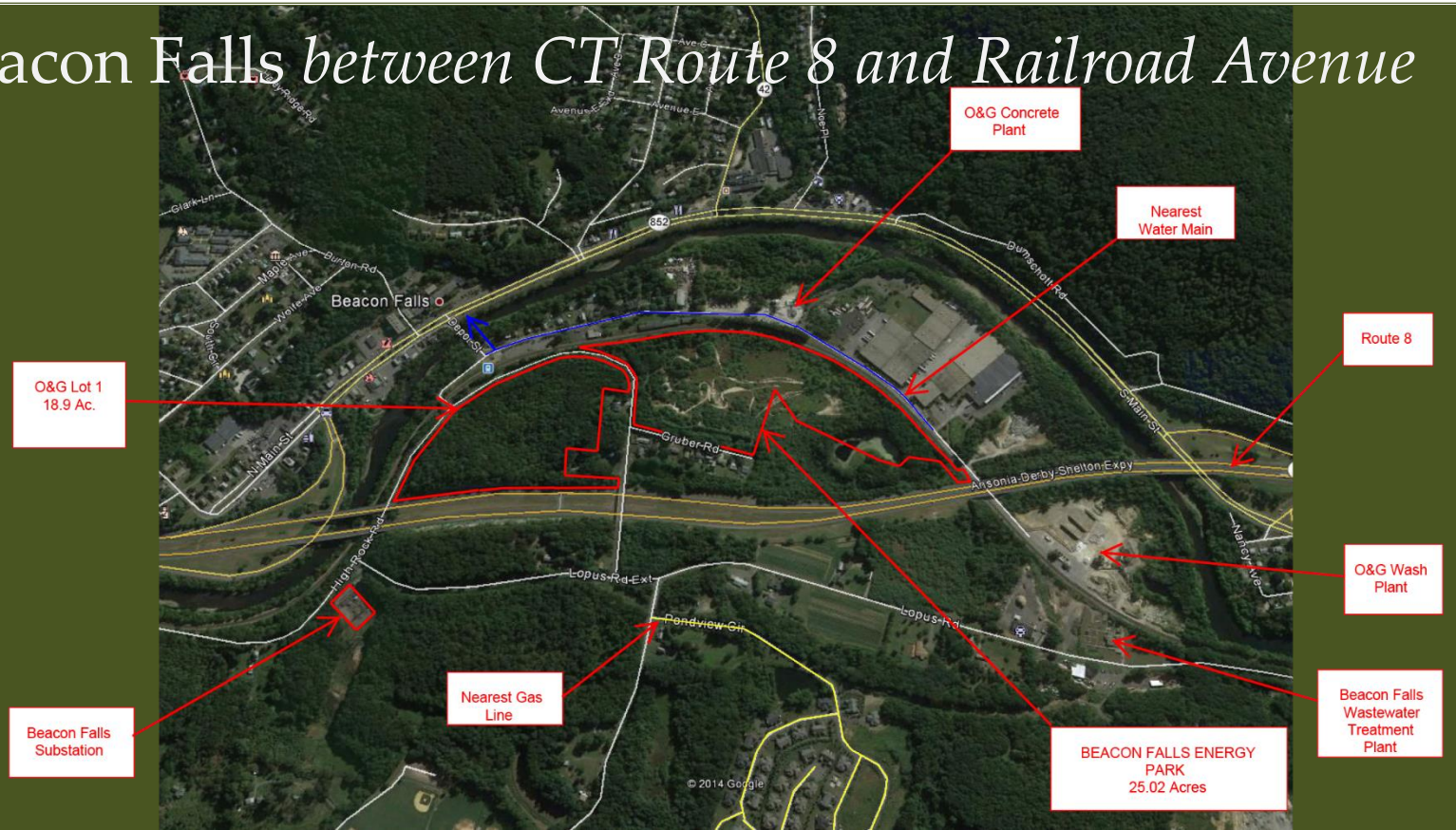
FORMER SAND AND
GRAVEL MINE
LOPUS ROAD
BEACON FALLS,
CONNECTICUT

# The Beacon Falls Project Site

- The property is an underutilized former sand and gravel mine.
- Zoning: The property is located in an area zoned for this type of development. (Industrial Park District – "IPD")
- The property is in close proximity to both electrical and natural gas fuel interconnections.
- The location and topography of the property provides important benefits including low project visibility and lower noise impacts.

# Project Location

## Beacon Falls *between CT Route 8 and Railroad Avenue*



# LOLAPALOOZA:

## The World's Largest Fuel Cell Electricity Generating Facility

### Project Design and Layout


**Project is designed to have a low profile and be landscaped for minimum visibility.**
**Fuel cells produce clean and reliable Class I renewable power without combustion.**

**An 8 acre project on a 25.02 acre parcel**

# LOLAPALOOZA:

# Selecting the Renewable Technology
# Why Fuel Cells?

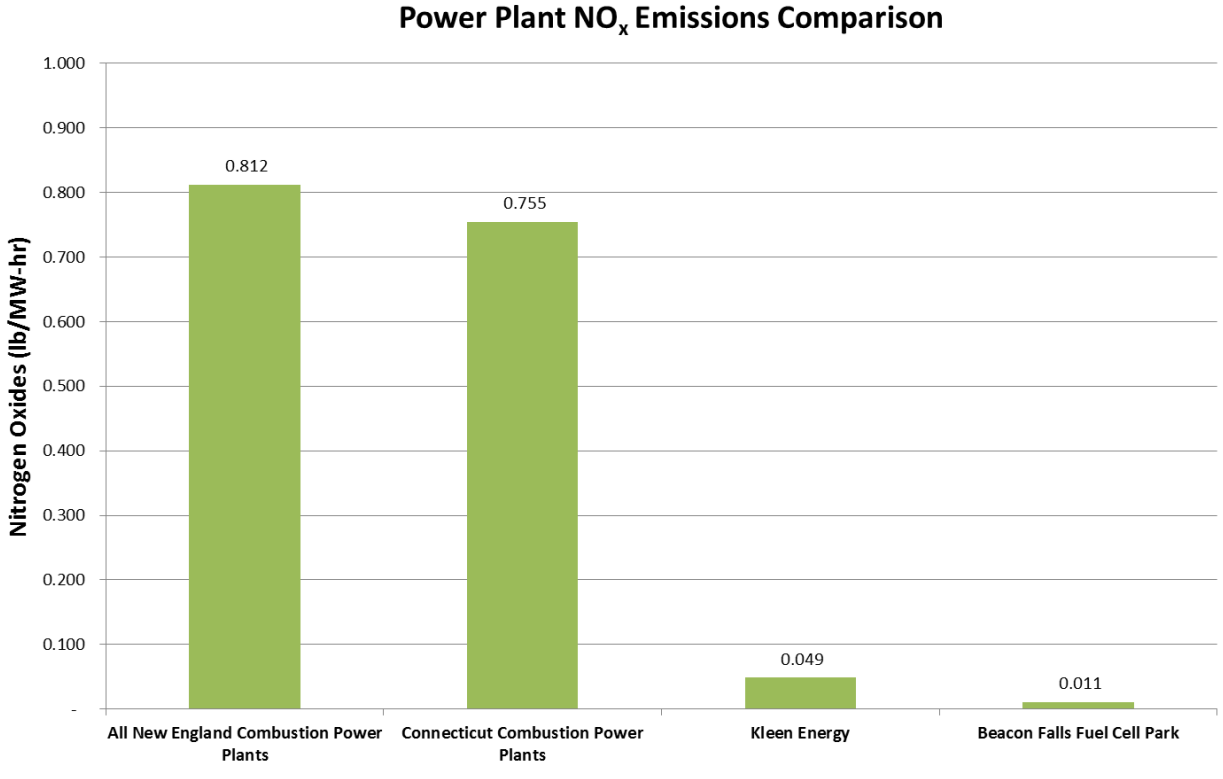
- Too Small for Solar: Beacon Falls Energy Park will generate 63.3 Megawatts on approximately 11 acres of the 25 acres of land. A comparably sized solar project would require more than 300 acres of land to achieve this output.

- Wind Not Available and Too Intrusive for Area: There is a lack of wind at the site and large scale wind turbines are usually more than 300 feet tall.

# Selecting the Renewable Technology
# Why Fuel Cells?

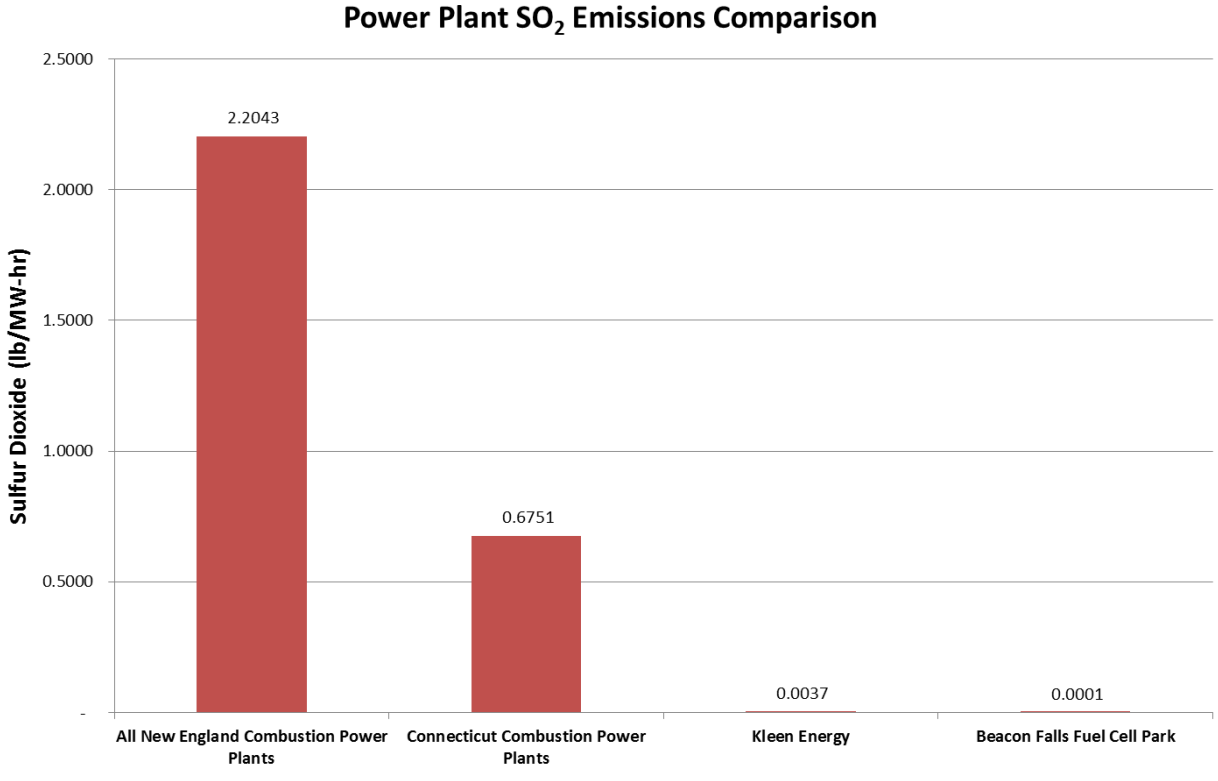
- Fuel Cells are a Class I Renewable in Connecticut.
- Fuel Cells Provide Clean and Reliable Electricity.
- Beacon Falls is located in proximity to the FuelCell Energy manufacturing plant.
- The property is in close proximity to both electrical and natural gas fuel interconnections.

# Air Quality Assessment & Impacts




Data Source for Existing Plants: U.S. Environmental Protection Agency (EPA) Emissions and Generation Resource Integrated Database (eGRID) http://www.epa.gov/cleanenergy/energy-resources/egrid/, for calendar year 2010 (most recent available), accessed 05/18/15.

# Air Quality Assessment & Impacts

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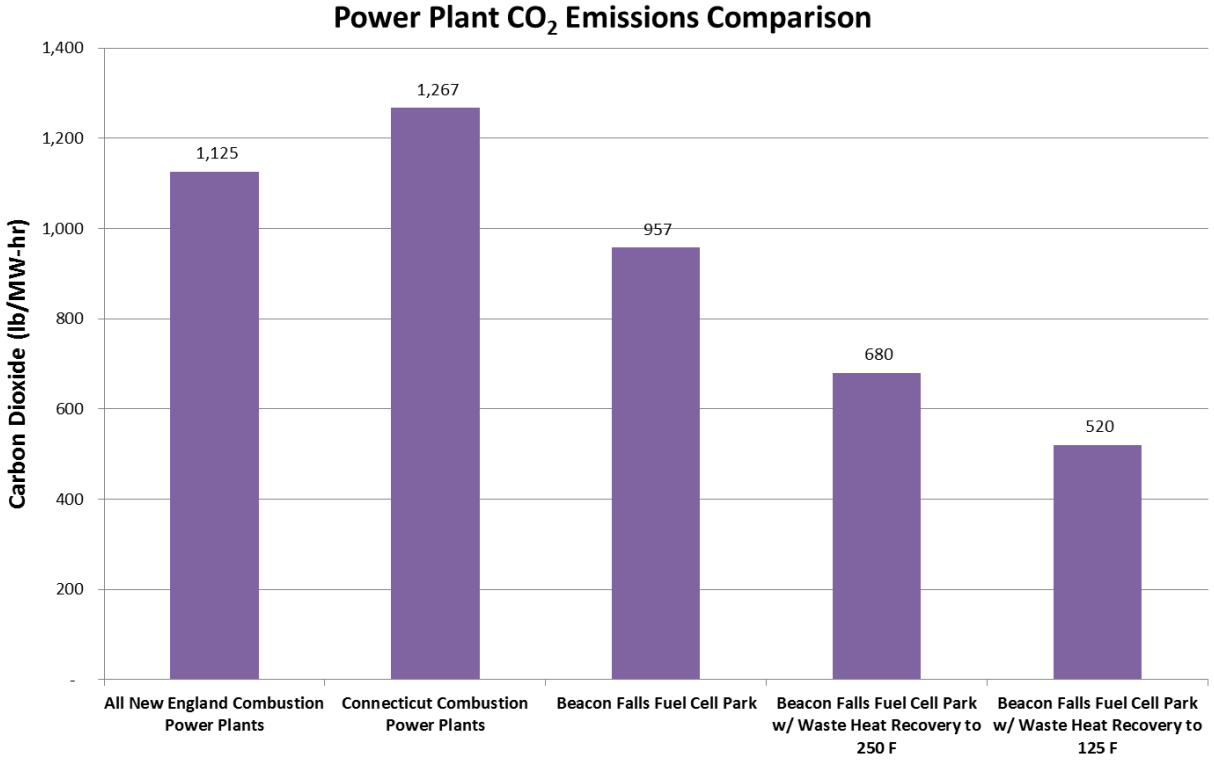


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# Noise Level Assessment & Impacts

# Project Benefits

- **Development of former sand and gravel mine (LULU)into world's largest fuel cell electric generating facility – a Class I renewable in Connecticut (LOLAPALOOZA) .**
- **Economic Development Benefits for town and state.**
  - **Jobs &Taxes**
- **Final project will have low visibility and sound profile and few other impacts on the area.**
- **Enhanced natural gas availability to Beacon Falls.**

# Support from Congressional Delegation

**Congress of the United States**
Washington, DC 20510

December 1, 2015

Melanie Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Petition No. 1184 – Beacon Falls Energy Park, LLC

Dear Ms. Bachman,

We write in support of the Beacon Falls Energy Park development project under consideration in the town of Beacon Falls. This project, when completed, will bring extraordinary benefits to the community and region through its clean energy generation, economic development of a former industrial site, and manufacture and use of Connecticut-based fuel cell technology.

Once completed, the Beacon Falls Energy Park will be the largest fuel cell project in the nation – generating substantial energy for residential use while making significant contributions towards Connecticut renewable energy goals. FuelCell Inc., a Connecticut-based company, has a proven record of developing and installing clean energy fuel cell projects in communities across the state, helping to bring new energy options to markets and demonstrating the significant capacity for this technology's benefits.

Connecticut continues to be a national leader in developing renewable and clean energy alternatives, and the Beacon Falls Energy Park promises to be the latest in a series of successful fuel cell projects. Its reuse of an industrial site is consistent with the goal of rehabilitating such sites and restoring them to economic viability. We understand some minor issues have been raised regarding the site including water main capacity, noise, and light, and that those issues are being worked on by all parties. Resolution of those concerns can be addressed by the Siting Council through conditions on any approval of the application.

The Beacon Falls Energy Park project is an extraordinary opportunity to expand the use of clean energy on a large scale, giving Connecticut residents a strong example of alternative energy sources to meet current and future energy demands through a community compatible use of a formerly polluted property. Therefore, we fully support this project and ask for the Council's full and fair consideration of the application.



Sincerely,

RICHARD BLUMENTHAL
United States Senate

CHRISTOPHER S. MURPHY
United States Senate

ROSA L. DELAURO
Member of Congress

JOHN B. LARSON
Member of Congress

ELIZABETH H. ESTY
Member of Congress

# Project Status

- Siting Council approval
- Permitting nearly complete
- “3 State Clean Energy RFP”